



جامعة صنعاء
كلية الطب والعلوم الصحية
دائرة العلوم السريرية الطبية
دفعة بصمه طبيب 31
طب بشري

OPHTHALMOLOGY



Orbit

Lecture No. **3**

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جروب ((C))

اللجنة العلمية لدفعة بصمة طبيب 31

مندوب الدفعة

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orbital cavity there are 2 orbital Cavities (pair)
(pear shape) شکل پسته
the apex towards posterior, base anterior

there's other Cavities as:-

- ① Optic Canal :- in which optic nerve pass through it
- ② Superior orbital fissure.
- ③ Inferior orbital fissure.

Optic Canal & Superior orbital fissure structures ساختار سوراخ
as Superior orbital fissure syndrome
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Diagram of the apical region of the apex of cavity
showing $\rightarrow$ Common tendinous ring $\rightarrow$ giving the origin
of the four rectus muscles (extra-ocular muscle)
 $\rightarrow$ also oblique muscles $\rightarrow$

Common tendinous ring or Common fibrous ring
 $\rightarrow$ fibrous tissue as a ring

* elevator palpebrae superioris $\rightarrow$ also its origin from
Common tendinous ring $\rightarrow$ but above the origin of
extra-ocular muscle

* nerves which are pass through Superior orbital fissure
lacrimal nerve, frontal nerve, trochlear nerve, oculomotor
nerve (LR 3, 4, 5) نور نور نور نور supply نور نور نور نور $\rightarrow$ so it affected
 $\rightarrow$ ophthalmoplegia, abducent nerve & nasociliary nerve

orbital cellulitis :-

orbital septum :- thick membrane separate orbital cavity into anterior & posterior

orbital cellulitis → behind orbital septum

→ 2ry to ethmoiditis → ethmoid bone which separate between nasal cavity & orbit

if there's sinusitis we fear about transmission into the orbital cavity

↓
Cavernous sinus thrombosis through emissary veins which connect the orbit directly to the brain

↓
downward & laterally ← proptosis
↓
due to fluid & inflammatory cellular component → push of eyeball
* also cellulitis affect muscles & nerves → painful ophthalmoplegia
↓
paralysis of muscles → decrease of action of muscles because of edema & inflammation.

* if advanced, severe or neglected cases → optic nerve dysfunction appear by test of visual field, colour vision
early sign of optic nerve dysfunction is ↓ colour vision

* Complications of orbital cellulitis :-

- ① increase intra-ocular pressure :- which may cause compression on optic nerve → optic nerve atrophy → post compression atrophy
- ② optic neuropathy -
- ③ Retinal vasculature occlusion :- pressure may close any blood vessels → compression on eye → sclera or conjunctiva blood vessels occlusion → necrosis

③

Management of orbital cellulitis

- ① hospital admission - for rest & avoid movement → spread
→ cavernous sinus thrombosis
- ② systemic antibiotic therapy - to avoid intracranial complication → so from the start you give strong antibiotics
broad spectrum antibiotic, if there's abscess → culture for specific antibiotics

Idiopathic orbital inflammatory disease (IOID)

Pseudotumour - ↑ in size but it's neoplastic or infectious disease (it's chronic inflammation) inflammatory cells collect to each other → tumour like

affects all soft tissues (muscles, conjunctiva, glands, fat, ...)

* presentation abrupt (sudden onset) painful → (20-50) years

- usually unilateral, periorbital swelling & chemosis

Chemosis (edema & redness in conjunctiva)

- also cause → proptosis - all soft tissue involved → push eye

- ophthalmoplegia - compression on nerves & muscles

Clinical Course

- if spontaneous remission & no sequelae → no treatment

- if prolonged intermittent activity & eventual remission

treatment options - ① steroids, ② radiotherapy → if cells → swollen to decrease its size or by ③ cytotoxic drugs → as tumour

- severe prolonged activity → "frozen orbit"

Slide 14

Dacryoadenitis - infection of lacrimal gland

which located in the upper lateral part of the eyelid and has 2 lobes - (bulbar & palpebral) → palpebral → connect to eyelid & bulbar → related to eyeball.

Thyroid eye diseases

may be a subtype of Idiopathic orbital inflammatory disease
 b/c it's soft tissue involvement, we don't know the cause
 even we ^{control} regulate the T_3 , T_4 & TSH the soft tissue also
 involved $\rightarrow$ proptosis

* Soft tissue involvement :- ① periorbital & lid swelling

b/c peri-orbital fat & eye lid $\rightarrow$ affection $\rightarrow$ swelling permanent

② Conjunctival hyperaemia :- due to congestion, compression of eyeball
 blood vessels tortuosity $\rightarrow$ engorgement by $\uparrow$ intra-orbital pressure $\rightarrow$ (stagnation & congestion)

③ Chemosis :- due to stagnation of blood flow $\rightarrow$ $\uparrow$ intravascular tension
 $\rightarrow$ extravasation of fluid content of the blood $\rightarrow$ chemosis

④ Superior limbic keratoconjunctivitis :- upper limbus $\rightarrow$ affection
 of Cornea & Conjunctiva. appear by slit lamp.

* Eye lid retraction :- b/c we see the upper limbus clearly
 * normally the upper limbus covered by upper eyelid.

* Lid lag :- normally the upper eyelids follow the movement
 of the eye at the same time, but in lid lag $\rightarrow$ ∇ ∇

proptosis :- occur in axial b/c there's fat at the apex of
 the orbit $\rightarrow$ increase $\rightarrow$ push the globe of the eye anteriorly

* when we do funduscopy to the eye we see choroidal folds
 due to compression on the eyeball.

* treatment options :- ① Systemic steroids, ② Radiotherapy $\rightarrow$ necrosis
 of the fat, ③ Surgical decompression :- if failed of previous treatment options
 we do surgical decompression :- excision of retro-orbital fat to
 decrease the size of eyeball $\rightarrow$ $\downarrow$ proptosis to avoid proptosis
 complications as :- Keratoconjunctivitis, erosion, ulcer

:- optic neuropathy :- early sign is defective of colour
 vision specially (grey & red colour), * caused by optic nerve compression
 at orbital apex by enlarged recti (medial & lateral), often in absence of
 significant proptosis involvement of optic nerve even in absence of
 proptosis.

(5)

Dacryops :- Ductal cyst in lacrimal gland translucent, frequently bilateral.

deep dermoid cyst :- non-axial proptosis :- b/c it's the cyst from sides not from apex → non-axial proptosis may to upper temporal side or upper nasal side

* Superficial dermoid cyst not cause proptosis

any dermoid cyst should be removed surgically carefully
∵ it's sac b/c leakage may occur and may when occur lead to irritation and inflammatory process → fibrosis.

encephalocele :- bony defect in skull bone cause herniation of intracranial contents.

* D.D of pulsating proptosis :- (1) haemangioma but ∵ bruit
(2) Encephalocele but ∵ out bruit.

associations of encephaloceles :-

A/ Ocular :- (1) Colobomas :- Part of optic nerve not present
(2) Morning glory anomaly.

B/ other Congenital bony defects :- (1) hypertelorism :- wide space between two eyes. (2) hare lip or cleft palate.

C/ Neurofibromatosis - 1 :- Common in post-encephalocele

Capillary hemangioma :-

نمطه لون احمر في العين ، كظف ، في العين ، في العين

if his eye closed → surgery specially if deep b/c we fear of amblyopia.

الجنة العلمية Group C

